



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,223	09/03/2003	William J. Allen	10003742-6	4766

7590 10/22/2004

HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

STEWART JR, CHARLES W

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/654,223	ALLEN ET AL.
	Examiner Charles W. Stewart, Jr.	Art Unit 2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-40 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-40 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 03 September 2003 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. 10/004,434.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>9/3/03</u>	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: ____ .

***Detailed Action***

***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine ground in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees.

See *In re Goodman*, 11 f.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 428, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321 (May be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b)).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-40 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of Allen et al. U.S. Patent No. 6,652,061 B2.

Allen et al. disclose an image forming apparatus, comprising:

In claim 1 with respect to claim 18, a movable print device; a sensed device having indicia that is capable of being sensed positioned adjacent to the movable print device; and at least first and second indicia sensors carried by the movable print device in spaced relation to one another.

In claim 2 with respect to claim 19, an image forming apparatus as claimed in claim 1, wherein the movable print device includes at least one ink jet pen having a plurality of nozzles.

In claim 3 with respect to claim 20, an image forming apparatus as claimed in claim 1, wherein the movable print device comprises a plurality of printer elements.

In claim 4 with respect to claim 21, an image forming apparatus as claimed in claim 1, wherein the movable print device comprises a plurality of printer elements arranged in first and second banks.

In claim 5 with respect to claim 7, an image forming apparatus as claimed in claim 1, wherein the sensed device comprises an encoder strip having a plurality of graduations.

In claim 6 with respect to claim 11, an image forming apparatus as claimed in claim 1, wherein the sensed device comprises at least first and second sensed devices positioned in spaced relation to one another, the first indicia sensor is in a sensing relationship with the first sensed device, and the second indicia sensor is in a sensing relationship with the second sensed device.

In claim 7 with respect to claim 4, wherein at least one of the first and second indicia sensors comprises a light source and a light sensor.

In claim 8 with respect to claim 22, an image forming apparatus as claimed in claim 1, further comprising: a controller, operably connected to the print device and the first and second indicia sensors, that controls a first portion of the print device at least partially in response to data from the first indicia sensor and controls a second portion of the print device at least partially in response to data from second indicia sensor.

In claim 9 with respect to claim 12, an image forming apparatus as claimed in claim 8, wherein the print device includes at least first and second printer elements and the controller controls the first printer element at least partially in response to data from the first indicia sensor and controls the second printer element at least partially in response to data from the second indicia sensor.

In claim 10 with respect to claim 16, an image forming apparatus as claimed in claim 8, wherein the print device includes a relatively tall printer element defining first and second longitudinal ends and the controller controls a portion of the printer element adjacent to the first longitudinal end at least partially in response to data from the first indicia sensor and controls a portion of the printer element adjacent to the second longitudinal end at least partially in response to data from the second indicia sensor.

In claim 11 with respect to claims 12 and 14, a main body configured to at least one printer element; and at least first and second indicia sensors carried by the main body in spaced relation to one another.

In claim 12 with respect to claim 5, wherein the main body is configured a carry of printer elements, the main body defines first and second longitudinal

ends, and the first and second indicia sensors are respectively located near the first and second longitudinal ends of the main body.

In claim 13 with respect to claims 4 and 12, wherein the main body is configured to carry first and second banks of printer elements, the first indicia sensor is closer to the first bank, and the second indicia sensor is closer to the second bank.

In claim 14 with respect to claim 13, a scanning carriage as claimed in claim 13, wherein the first and second banks define respective longitudinal ends, the first indicia sensor is located between the longitudinal ends of the first bank, and the second indicia sensor is located between the longitudinal ends of the second bank.

In claim 15 with respect to claim 5, a scanning carriage as claimed in claim 11, wherein the at least one printer element defines first and second longitudinal ends, the first indicia sensor is positioned adjacent to the first longitudinal end, and the second position sensor is positioned adjacent the second longitudinal end.

In claim 16 with respect to claim 20, a scanning carriage as claimed in claim 15, wherein main body is configured to carry a plurality of printer elements.

In claim 17 with respect to claim 1, an image forming apparatus, comprising: a print device, including a carriage and a plurality of printer elements supported on the carriage, movable along a scan axis; at least one encoder strip positioned along at least a portion of the scan axis; at least first and second encoder strip sensors carried by the print device adjacent to the at least one encoder strip and

in spaced relation to one another; and a controller, operably connected to the printer elements and the at least first and second encoder strip sensors, that controls the operation of a first group of printer elements at least partially in response to data from the first encoder strip sensor and controls the operation of a second group of printer elements at least partially in response to data from the second encoder strip sensor.

In claim 18 with respect to claim 2, an image forming apparatus as claimed in claim 17, wherein the printer elements comprise ink jet pens.

In claim 19 with respect to claim 17, an image forming apparatus as claimed in claim 17, wherein the plurality of printer elements are arranged in a bank defining first and second longitudinal ends, the first encoder strip sensor is located adjacent to the first longitudinal end, and the second encoder strip sensor is located adjacent to the second longitudinal end.

In claim 20 with respect to claim 4, an image forming apparatus as claimed in claim 17, wherein the plurality of printer elements are arranged in first and second banks, the first encoder strip sensor is located adjacent to the first bank, and the second encoder strip sensor is located adjacent to the second bank.

In claim 21 with respect to claims 3 and 5, an image forming apparatus as claimed in claim 17, wherein the printer elements define first and second longitudinal ends, the first encoder strip sensor is positioned adjacent to the first longitudinal ends, and the second encoder strip sensor is positioned adjacent to the second longitudinal ends.

In claim 22 with respect to claim 6, a method of operating a print device,

comprising: moving the print device past a sensed device having indicia that is capable of being sensed; and sensing the indicia with a first indicia sensor carried by the print device and a second indicia sensor carried by the print device in spaced relation to the first indicia sensor.

In claim 23 with respect to claim 7, a method as claimed in claim 22, wherein the sensed device comprises an encoder strip, the indicia comprises a plurality of graduations, and sensing the indicia comprises sensing the graduations with the first and second indicia sensors.

In claim 24 with respect to claim 8, a method as claimed in claim 22, wherein the sensed device comprises first and second sensed devices and sensing the indicia comprises sensing the indicia on the first sensed device with the first indicia sensor and sensing the indicia on the second sensed device with the second indicia sensor.

In claim 25 with respect to claim 9, a method as claimed in claim 22, wherein the sensed device comprises first and second encoder strips, the indicia comprises a plurality of graduations on each encoder strip, and sensing the indicia comprises sensing the graduations on the first encoder strip with the first indicia sensor and sensing the graduations on the second encoder strip with the second indicia sensor.

In claim 26 with respect to claim 10, a method as claimed in claim 22, further comprising: controlling operation of a first portion of the print device at least partially in response to data obtained by sensing the indicia with the first indicia sensor; and controlling operation of a second portion of the print device at least

partially in response to data obtained by sensing the indicia with the second indicia sensor.

In claim 27 with respect to claim 26, a method as claimed in claim 26, wherein the print device includes at least first and second printer elements, controlling operation of the first portion of the print device comprises controlling the first printer element at least partially in response to data obtained by sensing the indicia with the first indicia sensor, and controlling operation of the second portion of the print device comprises controlling the second printer element at least partially in response to data obtained by sensing the indicia with the second indicia sensor.

in claim 28 with respect to claim 12, a method as claimed in claim 26, wherein the print device includes a relatively tall printer element defining first and second longitudinal ends, controlling operation of the first portion of the print device comprises controlling a portion of the printer element adjacent to the first longitudinal end at least partially in response to data obtained by sensing the indicia with the first indicia sensor, and controlling operation of the second portion of the print device comprises controlling a portion of the printer element adjacent to the second longitudinal end at least partially in response to data obtained by sensing the indicia with the second indicia sensor.

In claim 29 with respect to claim 1, an image forming apparatus, comprising: a movable print device; and position sensing device independently sensing a position of at least first and second predetermined locations on the movable print device.

In claim 30 with respect to claim 19, an image forming apparatus as claimed in claim 29, wherein the movable print device includes at least one ink jet pen having a plurality of nozzles.

In claim 31 with respect to claim 20, an image forming apparatus as claimed in claim 29, wherein the movable print device comprises a plurality of printer elements.

In claim 32 with respect to claim 4, an image forming apparatus as claimed in claim 29, wherein the movable print device comprises a plurality of printer elements arranged in first and second banks.

In claim 33 with respect to claim 22, an image forming apparatus as claimed in claim 29, further comprising: a controller, operably connected to the print device and position sensing device, that controls a first portion of the print device at least partially in response to the position of the first location on the print device and controls a second portion of the print device at least partially in response to the position of the second location on the print device.

In claim 34 with respect to claim 24, an image forming apparatus as claimed in claim 33, wherein the print device includes at least first and second printer elements and the controller controls the first printer element at least partially in response to the position of the first location on the print device and controls the second printer element at least partially in response to the position of the second location on the print device.

In claim 35 with respect to claim 12, an image forming apparatus as claimed in claim 33, wherein the print device includes a relatively tall printer element

defining first and second longitudinal ends and the controller controls a portion of the printer element adjacent to the first longitudinal end at least partially in response to the position of the first location on the print device and controls a portion of the printer element adjacent to the second longitudinal end at least partially in response to the position of the second location on the print device.

In claim 36 with respect to claim 13, a method of operating a print device, the method comprising sensing the position of first and second spaced locations on the print device; controlling operation of a first portion of the print device at least partially in response to data obtained by sensing the position of the first location; and controlling operation of a second portion of the print device at least partially in response to data obtained by sensing the position of the second location.

In claim 37 with respect to claim 14, a method as claimed in claim 36, wherein sensing the position of first and second spaced locations on the print device comprises sensing a sensed device with first and second spaced sensing elements.

In claim 38 with respect to claim 15, a method as claimed in claim 36, wherein the print device includes at least first and second printer elements, controlling operation of the first portion of the print device comprises controlling the first printer element at least partially in response to data obtained by sensing the position of the first location, and controlling operation of the second portion of the print device comprises controlling the second printer element at least partially in response to data obtained by sensing the position of the second location.

In claim 39 with respect to claim 16, a method as claimed in claim 36, wherein the print device includes a relatively tall printer element defining first and second longitudinal ends, controlling operation of the first portion of the print device comprises controlling a portion of the printer element adjacent to the first longitudinal end at least partially in response to data obtained by sensing the position of the first location, and controlling operation of the second portion of the print device comprises controlling a portion of the printer element adjacent to the second longitudinal end at least partially in response to data obtained by sensing the position of the second location.

In claim 40 with respect to claim 17, a method as claimed in claim 36, wherein sensing the position of first and second spaced locations on the print device comprises sensing first and second fiducial reference points on the print device.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a sensed device having indicia that is capable of being sensed positioned adjacent to the movable print device in order to achieve better printing operation.

#### *Contact Information*

3. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Charles Stewart, Jr. whose telephone number is (571) 272-2154.

Art Unit: 2853

Charles Stewart, Jr.



October 12, 2004



Stephen D. Meier  
Primary Examiner